MULTI-LOOP ANTENNA FOR RADIO FREQUENCY IDENTIFICATION (RFID) COMMUNICATION

ABSTRACT

A multi-loop antenna is described having a plurality of conductive loops to produce an electromagnetic field for radio frequency identification (RFID) communication with RFID tags. The conductive loops are spaced apart at least a distance that is selected based on a dimension of the RFID tags with which the antenna communicates. In this manner, the loops are positioned and spaced in a manner that reduces the size of the holes within the resulting magnetic field. In addition, the configuration of the described dual-loop antenna increases the coverage of the antenna, and decreases inter-winding capacitance, thereby increasing overall read range achieved by the antenna.